

REMARKS

Claims 1-26 are pending in this application, with claims 1, 8, 15, 18, 21, and 24 being independent. Independent claims 8 and 15 have been amended along with claims 16 and 17. No new matter has been added by way of this amendment. Favorable reconsideration and reexamination is respectfully requested in view of the foregoing amendments and the following comments of the Applicants, which are proceeded by related comments of the Examiner in small bold type:

Claim Rejections - 35 USC § 112

Claims 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation of "a packet forwarder" comprises "a process to ..." It is unclear as whether the "packet forwarder" is a method or an apparatus.

Claims 15-17 have been amended to point out that "a packet forwarder" is an apparatus that includes "a process stored on a computer".

Claim Rejections - 35 USC § 101

Claims 8-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 8-14 recite the limitation "A computer program product" which directs to an abstract idea that is not tied to any new and useful process, machine, manufacture, or composition of matter as required under the basis of statutory subject matter of 35 U.S.C. 101. Data structures not claimed as embodied in a computer readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computing environment. See e.g., Warmerdam, 33 F. 3d at 1361, 31 USPQ2d at 1754 (claim to a structure per se held nonstatutory). Claims 8-14 recite the limitation "A computer program product, tangibly embodied in an information carrier" which directs to nonstatutory subject matter since "an information carrier" is not limited to tangible embodiments.

To overcome this type of 101 rejections the claims need to be amended to include only the physical computer media and not a transmission media or other intangible or non-functional media. It is noted carrier medium and transmission media would be not statutory but storage media would be statutory. To expedite a complete examination of the instant application the claims rejected under 35 USC 101 (nonstatutory)

above further rejected as set forth below in anticipation of applicant amending these claims to place them within the four categories of invention.

As suggested by the Examiner and to expedite prosecution, independent claim 8 has been amended. In particular, independent claim 8 has been amended to read, "A computer program product, tangibly embodied on a computer-readable medium, the computer program product being operable to cause a machine to: ...". Since claims 9-14 depend upon amended independent claim 8, the Applicants submit that these claims are in proper condition for satisfying 35 U.S.C. §101.

Double Patenting

Claims 1, 3-5, 7-8, 10-12, 14-15, 17-18, 20-21, 23-24 and 26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4-5, 7-9, 11-12, 14-15, 16, 18-19, 21-22, and 24-25, of copending Application No. 10/749,792, respectively, in view of Sallet et al (US 6,490,276). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims recite substantially same limitations, except delivering the packet to an exception processor being shared by the packet forwarding device in the stack. Sallet discloses a method for forwarding a data frame from a first switch to a second switch, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Sallet's method of forwarding data frames to the instance application in order to transmit data effectively. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants will consider filing a terminal disclaimer upon an indication of allowable subject matter.

Claim Rejections - 35 USC 102

Claims 1, 8, 15, 18, 21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Salett et al (US 6,490,276), hereinafter Salett, in view of Kalkunte et al (US 7,139,269).

Regarding claims 1, 8, 15, 18, 21 and 24, Salett discloses a method comprising:

inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor (e.g., a 64-bit header is used to indicate the source and destination information for each set of data frames transmitted on the network. The encoding is preferably in a vector form of 1 bit per port; col. 3: lines 44-63 and col. 4: lines 15-21).

However, Salett does not explicitly call for the exception processor being shared by the packet forwarding devices in the stack.

As shown in Figure 41, Kalkunte teaches the server (port 8) is being shared by clients (ports 1-6).

Kalkunte's shared exception processor is a well-known configuration in the art, e.g., a router routes traffic for many sources or a server can be shared among/connected to many clients. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made that Kalkunte's shared exception processor is a viable option in Salett's system.

Based upon the Examiner's comments regarding this rejection, it is the Applicants' understanding that claims 2-4, 9-11, 14, 16-17, 19-20, 22-23, and 25-26 were also rejected under 35 U.S.C. §102(b) over Salett in view of Kalkunte.

Since the Examiner cited a combination of two references in each claim rejection and concedes that no claim is anticipated by either reference individually, the Applicants believe that these rejections should be under 35 U.S.C. §103 instead of under 35 U.S.C. §102(b).

Independent claim 1 is directed to a method that includes inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack.

Neither Salett nor Kalkunte, alone or in combination, is understood to disclose or suggest features of independent claim 1. In particular, neither reference discloses or suggests inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack

In contrast, Salett is understood to describe a method to transfer a data frames on a network switch, in which each data frame transmitted on the network contains a 64-bit header that indicates the source and destination of the respective data frame. During operation, a source switch updates the header information of the data frame to indicate the source of the data frame, and transmits the data frame to the destination switch by comparing the data frame with a station list. When the destination is not found in the station list, the data frame is sent out all ports (referred to as 'flooding') of every switch on the network. In this regard, Salett reads:

"...a 64-bit header is used to indicate the source and the destination information for each set of data frames transmitted on the network. The header preferably provides six bits for the source port (SRC_PORT), shown as bits 44-49, and six destination port (DST_PORT), shown as 50-55." (col. 4, lines 15-21)

"When station A 215 first transmits a data frame, it is received by switch 205 on port 4. The CAM 213 in switch 205 updates a station list contained in the CAM 213 to indicate that station A 215 is on port 4. For preferably only on the stack bus, the switch 205 then updates the header information of the data frame to indicate that it originated from switch 205. In one embodiment of the present invention, the SRC_PORT or local port bits of the packet bus and stack header of the data frame are encoded with the originating switch. Switch 205 also reads the destination station from the header information of the data frame, which in the present example is station B 223. Switch 205 compares the destination station of the data frame with its station list. If the data frame is the first data frame transmitted through the switch 205 which has station B 223 as a destination station, station B 223 will not be found in the station list of switch 205. Switch 205 then sends or "floods" the data frame out all ports on switch 205 and to all other switches on the network. Flooding is typically implemented by asserting all bits in the CAM cycle, including stack box bits, except for the source port bit." (col. 4, lines 39-59)

The data frame described by Salett is understood to contain a 64-bit header that indicates source and destination information and may be updated. Nowhere does Salett disclose or suggest inserting a vector in a packet, as required by independent claim 1. Further, and as conceded by the Examiner, Salett's network does not include an exception processor being shared by packet forwarding devices in a stack, as required by independent claim 1. Rather, Salett describes flooding a data frame out of all ports of each network switch if the data frame's destination is not found.

Accordingly, Salett fails at least to disclose or to suggest each and every limitation of independent claim 1.

Kalkunte is not understood to cure the deficiencies of Salett. For example, Kalkunte does not disclose or suggest inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack. Rather, Kalkunte describes a method of handling data packets in a series of network switches. In this regard, Kalkunte reads:

"A module id bit map of the incoming data packet is resolved and a bit corresponding to the first switch of the module id bitmap is examined to determine if the bit is set. A destination address of the incoming data packet is resolved when the corresponding bit is set and the incoming data packet is

forwarded or dropped based on the destination address. When the corresponding bit is not set, the incoming data packet is forwarded to a next switch of the series of network switches. A network switch configured to allow for cascading of data packets is also disclosed." (abstract)

Thus, Kalkunte describes resolving a destination address of a data packet or forwarding the data packet based upon the state of a bit. Accordingly, Kalkunte fails to disclose or suggest inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack.

Independent claims 8, 15, 18, 21 and 24 each contain subject matter similar to claim 1. These claims are also believed allowable for at least the reasons noted above.

Dependent claims 2-4, 9-11, 14, 16-17, 19-20, 22-23, and 25-26 are also believed to define patentable features of the invention. Each dependent claim is patentable at least for the reasons set forth in its corresponding independent claim and, as such, has not been addressed specifically herein.

Claim Rejections - 35 USC § 103

Claims 5-6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salett-Kalkunte as respectively applied to claims 1 and 8 above, in view of Abali et al (US 5,721,820), hereinafter Abali.

Abali does not cure the deficiencies of Salett and Kalkunte. For example, Abali does not disclose or suggest inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack. Rather, the reference describes an adaptive routing method in which a routing message is generated to describe allowable pathways for routing a data message. In this regard, Abali reads:

A method for adaptive routing of messages in a computer network. The method provides adaptive source routing by generating at a source node a routing message describing a plurality of allowable paths via which data message can reach a desired destination. The data message and the routing message are sent by the source to a first switch, and the routing message is evaluated by control logic to determine if an available, allowable path exists. If

so, the data message and routing message are sent via that path to the destination. (abstract)

Thus, Abali describes generating a separate message (i.e., a routing message) that may be used to determine an appropriate path to send a data message. Accordingly, Abali fails to disclose or suggest inserting a vector in a packet that identifies a first device in a stack of packet forwarding devices that delivers the packet to an exception processor being shared by the packet forwarding devices in the stack, as required in independent claims 1 and 8 from which claims 5, 6, 12 and 13 respectively depend.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

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Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 10559-906001.

Respectfully submitted,

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